

1 **METHOD AND APPARATUS FOR TREATMENT OF EYE DISORDERS**
2 **USING ARTICULATED ARM COUPLED ULTRAVIOLET LASERS**

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7 **ABSTRACT**
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9 Surgical method and apparatus for presbyopia correction and glaucoma by
10 laser removal of the sclera tissue are disclosed. The disclosed preferred
11 embodiments of the system consists of a beam spot controller, an articulated
12 arm and an attached end-piece. The basic laser beam includes UV laser having
13 wavelength ranges of (0.19-0.36) microns, generated from UV excimer lasers
14 of ArF, XeCl or solid state lasers of Nd:YLF, Nd:YAG, Ti:sapphire with harmonic
15 generation using nonlinear crystals. Presbyopia is treated by ablation of the
16 sclera tissue in predetermined patterns outside the limbus to increase the
17 accommodation of the ciliary body of the eye. Glaucoma is treated by
18 decreasing of intra ocular pressure of the laser surgery. A new concept based
19 on a 2-component model is proposed and the accommodation increase is given
20 by both lens thickness increase and its anterior shift.